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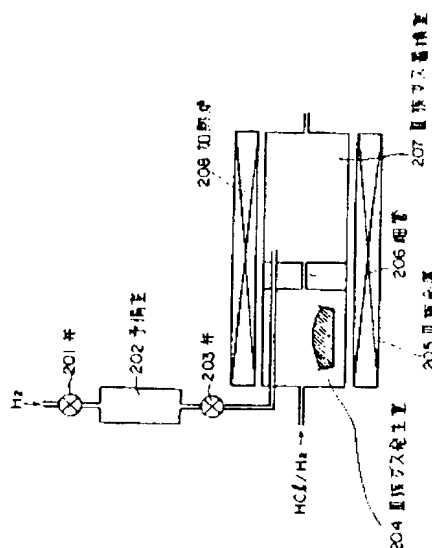
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TITLE : VAPOR GROWTH METHOD AND
APPARATUS FOR COMPOUND
SEMICONDUCTOR



ABSTRACT : PURPOSE: To shorten the growing time of a single molecule layer by accumulating a group III raw material gas which is formed by the reaction of a group III metal and halogen gas at high temperature in a group-III gas accumulating chamber in the state of high temperature and high pressure, and feeding the gas on the surface of a substrate crystal instantaneously.

CONSTITUTION: In a group-III gas generating chamber 204, a group III metal (Ga) 205 and HCl being diluted with H₂ are made to react, and GaCl that is group III halogen gas is generated. The GaCl gas is introduced into a group III gas accumulating chamber 207 through a thin pipe 206 and accumulated. At this time, the group-III gas generating chamber 204 and the group-III gas accumulating chamber 207 are heated with a heating furnace 208. At the same time, a valve 203 is closed and a valve 201 is opened, and H₂ which is a carrier gas is stored into a preparatory chamber 204 to a pressure that is slightly higher than that in the accumulating chamber 207. Then the valve 201 is closed. When the feeding time of the group III raw material is reached, the valve 203 is opened, and the H₂ is introduced into the accumulating chamber 207. As a result, the accumulated GaCl is jetted on the surface of the substrate through the narrow output port of the accumulating chamber.

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